

1 9. (Amended) A process for controlling the pressure within a[n] chamber, comprising the  
2 steps of:

3 generating a pressure sensor signal responsive to the pressure in said chamber;  
4 generating a step command signal responsive to said pressure sensor signal and a tool  
5 logic signal, said step command signal generating comprising applying a pressure control  
6 algorithm to said pressure sensor and tool logic signals;

7 generating a direction/speed command signal responsive to said step command signal  
8 and a valve position feedback signal, said direction/speed command signal generating  
9 comprising applying a position control algorithm to said step command and valve position  
10 feedback signals;

11 actuating a valve responsive to said direction/speed command signal, said actuating  
12 resulting in said valve residing in a position, said valve in fluid communication with said  
13 chamber; [and]

14 generating [said]a valve position error feedback signal responsive to said[the]  
15 position of said valve; and

16 repeating said direction/speed command signal generating step, said actuating step  
17 and said valve position error generating step substituting said valve position error feedback  
18 signal for said valve position feedback signal.

1  
2 14. (Amended) A process for controlling the fluid flow through a conduit, comprising the steps of:

3 generating a flow sensor signal responsive to the flow in said conduit;

4 generating a step command signal responsive to said flow sensor signal and a tool logic

5 signal, said step command signal generating comprising applying a pressure control algorithm to  
6 said pressure sensor and tool logic signals;

ny

112 18-PP

7 generating a direction/speed command signal responsive to said step command signal and a  
8 valve position feedback signal, said direction/speed command signal generating comprising  
9 applying a position control algorithm to said step command and valve position feedback signals;  
10 actuating a valve responsive to said direction/speed command signal, said actuating resulting  
11 in said valve residing in a position, said valve in fluid communication with said conduit; [and]  
12 generating [said]a valve position error feedback signal responsive to said[ the] position of  
13 said valve; and  
14 repeating said direction/speed command signal generating step, said actuating step and said  
15 valve position error generating step substituting said valve position error feedback signal for said  
16 valve position feedback signal.